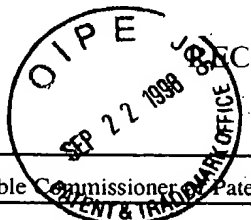


10-09-1998

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office



100847293

T

Attorney's Docket No. 016499-546

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Karl S. BEERS and Charles L. ANDERSON

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name

Other: \_\_\_\_\_

Execution Date: June 30, 1998

2. Name and address of receiving party(ies):

Name: L'AIR LIQUIDE, SOCIETE ANONYME  
POUR L'ETUDE ET, L'EXPLOITATION DES  
PROCEDES GEORGES CLAUDE

Address: 75 QUAI D'ORSAY

75321 PARIS CEDEX 07

FRANCE

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s)

09/107,141

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: E. Joseph Gess, Esq.

Address: BURNS, DOANE, SWECKER & MATHIS, L.L.P.

P.O. Box 1404

Alexandria, Virginia 22313-1404

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 40.00

☒ Enclosed

☒ Authorized to be charged to deposit account, if necessary

8. Deposit account number:

02-4800

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Nhat D. Phan  
Name of Person Signing

Nhat D. Phan  
Signature

September 22, 1998  
Date

Total number of pages including cover sheet, attachments, and document: 2

10/08/1998 DMGUYEN 00000217 09107141

01 FC1581

40.00 UP

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks  
Box Assignments  
Washington, D.C. 20231

Ref. No.: Serie 4572**Assignment of Invention**

WHEREAS, WE, Karl S. Beers and Charles L. Anderson, respectively, have invented certain new and useful improvements in: MULTIPLE ASM OBIGGS WITH DIFFERENT PERMEABILITY AND SELECTIVITY MEMBRANES, for which an application for Letters Patent Serial No. 09/107,141, filed 06/30/98, and

WHEREAS, L'AIR LIQUIDE, SOCIETE ANONYME POUR L'ETUDE ET, L'EXPLOITATION DES PROCEDES GEORGES CLAUDE (hereinafter referred to as "ASSIGNEE"), having a place of business at: 75 quai d'Orsay, 75321 PARIS Cedex 07, FRANCE desires to acquire from Karl S. Beers and Charles L. Anderson the entire right, title and interest they have in and to said invention and in and to any Letters Patent that may be granted thereof in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, for valuable consideration, the receipt whereof is hereby acknowledged, I (WE), by these presents do sell, assign and transfer unto said ASSIGNEE, all of our right to the said invention in the United States and its territorial possessions and in all foreign countries and my entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my (our) entire right, title and interest in and to the same, for the use and behalf of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.

Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

The undersigned hereby grant(s) authorized representatives of the above identified ASSIGNEE the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

EXECUTED AT: U.S.A.Date: 6/30/98

Karl S. Beers  
Karl S. Beers, (Inventor)

Date: 6/30/98

Charles L. Anderson  
Charles L. Anderson, (Inventor)



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

*ent Ms Pat*

JANUARY 29, 1999

PTAS  
BURNS, DOANE, SWECKER & MATHIS, LLP  
E. JOSEPH GESS, ESQ.  
P.O. BOX 1404  
ALEXANDRIA, VA 22313-1404



\*100847293A\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/22/1998

REEL/FRAME: 9492/0246  
NUMBER OF PAGES: 2

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
BEERS, KARL S.

DOC DATE: 06/30/1998

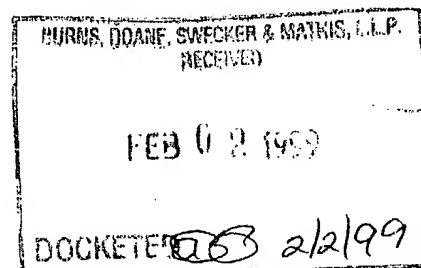
ASSIGNOR:  
ANDERSON, CHARLES L.

DOC DATE: 06/30/1998

ASSIGNEE:  
L'AIR LIQUIDE, SOCIETE ANONYME  
POUR L'ETUDE ET, L'EXPLOITATION  
DES PROCEDES GEORGES CLAUDE  
75 QUAI D'ORSAY  
75321 PARIS CEDEX 07, FRANCE

SERIAL NUMBER: 09107141  
PATENT NUMBER:

FILING DATE: 06/30/1998  
ISSUE DATE:



*016499-546  
Liquid Air  
ESG/NDP*

SHIRLIE SIMON, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

**COMBINED DECLARATION AND POWER OF ATTORNEY  
FOR UTILITY PATENT APPLICATION**

Attorney's Docket No.  
016499-546

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I BELIEVE I AM THE ORIGINAL, FIRST AND SOLE INVENTOR (if only one name is listed below) OR AN ORIGINAL, FIRST AND JOINT INVENTOR (if more than one name is listed below) OF THE SUBJECT MATTER WHICH IS CLAIMED AND FOR WHICH A PATENT IS SOUGHT ON THE INVENTION ENTITLED:

MULTIPLE ASM OBIGGS WITH DIFFERENT PERMEABILITY

AND SELECTIVITY MEMBRANES

the specification of which

(check one)

☐

is attached hereto;

☒

was filed on June 30, 1998 as

Application No. 09/107,141

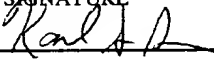
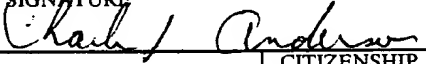
and was amended on \_\_\_\_\_;  
(if applicable)

I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE;

I ACKNOWLEDGE THE DUTY TO DISCLOSE TO THE OFFICE ALL INFORMATION KNOWN TO ME TO BE MATERIAL TO PATENTABILITY AS DEFINED IN TITLE 37, CODE OF FEDERAL REGULATIONS, Sec. 1.56 (as amended effective March 16, 1992);

I do not know and do not believe the said invention was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to said application; that said invention was not in public use or on sale in the United States of America more than one year prior to said application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of said application in any country foreign to the United States of America on any application filed by me or my legal representatives or assigns more than twelve months prior to said application;

I hereby claim foreign priority benefits under Title 35, United States Code Sec. 119 and/or Sec. 365 of any foreign application(s) for patent or inventor's certificate as indicated below and have also identified below any foreign application for patent or inventor's certificate on this invention having a filing date before that of the application(s) on which priority is claimed:

COMBINED DECLARATION AND POWER OF ATTORNEY			Attorney's Docket No. 016499-546																																																																														
COUNTRY/INTERNATIONAL	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED																																																																														
			YES_ NO_																																																																														
			YES_ NO_																																																																														
<p>I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">William L. Mathis</td> <td style="width: 10%;">17,337</td> <td style="width: 33%;">Robert G. Mukai</td> <td style="width: 10%;">28,531</td> <td style="width: 33%;">William H. Benz</td> <td style="width: 10%;">25,952</td> </tr> <tr> <td>Peter H. Smolka</td> <td>15,913</td> <td>George A. Hovanec, Jr.</td> <td>28,223</td> <td>Peter K. Skiff</td> <td>31,917</td> </tr> <tr> <td>Robert S. Swecker</td> <td>19,885</td> <td>James A. LaBarre</td> <td>28,632</td> <td>Richard J. McGrath</td> <td>29,195</td> </tr> <tr> <td>Platon N. Mandros</td> <td>22,124</td> <td>E. Joseph Gess</td> <td>28,510</td> <td>Matthew L. Schneider</td> <td>32,814</td> </tr> <tr> <td>Benton S. Duffett, Jr.</td> <td>22,030</td> <td>R. Danny Huntington</td> <td>27,903</td> <td>Michael G. Savage</td> <td>32,596</td> </tr> <tr> <td>Joseph R. Magnone</td> <td>24,239</td> <td>Eric H. Weisblatt</td> <td>30,505</td> <td>Gerald F. Swiss</td> <td>30,113</td> </tr> <tr> <td>Norman H. Stepno</td> <td>22,716</td> <td>James W. Peterson</td> <td>26,057</td> <td>Michael J. Ure</td> <td>33,089</td> </tr> <tr> <td>Ronald L. Grudziecki</td> <td>24,970</td> <td>Teresa Stanek Rea</td> <td>30,427</td> <td>Charles F. Wieland III</td> <td>33,096</td> </tr> <tr> <td>Frederick G. Michaud, Jr.</td> <td>26,003</td> <td>Robert E. Krebs</td> <td>25,885</td> <td>Bruce T. Wieder</td> <td>33,815</td> </tr> <tr> <td>Alan E. Kopecki</td> <td>25,813</td> <td>William C. Rowland</td> <td>30,888</td> <td>Todd R. Walters</td> <td>34,040</td> </tr> <tr> <td>Regis E. Slutter</td> <td>26,999</td> <td>T. Gene Dillahunt</td> <td>25,423</td> <td> </td> <td> </td> </tr> <tr> <td>Samuel C. Miller, III</td> <td>27,360</td> <td>Patrick C. Keane</td> <td>32,858</td> <td> </td> <td> </td> </tr> <tr> <td>Ralph L. Freeland, Jr.</td> <td>16,110</td> <td>Bruce J. Boggs, Jr.</td> <td>32,344</td> <td> </td> <td> </td> </tr> </table>				William L. Mathis	17,337	Robert G. Mukai	28,531	William H. Benz	25,952	Peter H. Smolka	15,913	George A. Hovanec, Jr.	28,223	Peter K. Skiff	31,917	Robert S. Swecker	19,885	James A. LaBarre	28,632	Richard J. McGrath	29,195	Platon N. Mandros	22,124	E. Joseph Gess	28,510	Matthew L. Schneider	32,814	Benton S. Duffett, Jr.	22,030	R. Danny Huntington	27,903	Michael G. Savage	32,596	Joseph R. Magnone	24,239	Eric H. Weisblatt	30,505	Gerald F. Swiss	30,113	Norman H. Stepno	22,716	James W. Peterson	26,057	Michael J. Ure	33,089	Ronald L. Grudziecki	24,970	Teresa Stanek Rea	30,427	Charles F. Wieland III	33,096	Frederick G. Michaud, Jr.	26,003	Robert E. Krebs	25,885	Bruce T. Wieder	33,815	Alan E. Kopecki	25,813	William C. Rowland	30,888	Todd R. Walters	34,040	Regis E. Slutter	26,999	T. Gene Dillahunt	25,423			Samuel C. Miller, III	27,360	Patrick C. Keane	32,858			Ralph L. Freeland, Jr.	16,110	Bruce J. Boggs, Jr.	32,344		
William L. Mathis	17,337	Robert G. Mukai	28,531	William H. Benz	25,952																																																																												
Peter H. Smolka	15,913	George A. Hovanec, Jr.	28,223	Peter K. Skiff	31,917																																																																												
Robert S. Swecker	19,885	James A. LaBarre	28,632	Richard J. McGrath	29,195																																																																												
Platon N. Mandros	22,124	E. Joseph Gess	28,510	Matthew L. Schneider	32,814																																																																												
Benton S. Duffett, Jr.	22,030	R. Danny Huntington	27,903	Michael G. Savage	32,596																																																																												
Joseph R. Magnone	24,239	Eric H. Weisblatt	30,505	Gerald F. Swiss	30,113																																																																												
Norman H. Stepno	22,716	James W. Peterson	26,057	Michael J. Ure	33,089																																																																												
Ronald L. Grudziecki	24,970	Teresa Stanek Rea	30,427	Charles F. Wieland III	33,096																																																																												
Frederick G. Michaud, Jr.	26,003	Robert E. Krebs	25,885	Bruce T. Wieder	33,815																																																																												
Alan E. Kopecki	25,813	William C. Rowland	30,888	Todd R. Walters	34,040																																																																												
Regis E. Slutter	26,999	T. Gene Dillahunt	25,423																																																																														
Samuel C. Miller, III	27,360	Patrick C. Keane	32,858																																																																														
Ralph L. Freeland, Jr.	16,110	Bruce J. Boggs, Jr.	32,344																																																																														
<p>and: <u>Jeffrey L. Wendt, Esq., Reg. No. 32,952 and Nhat D. Phan, Esq., Reg. No. 39,581</u></p>																																																																																	
<p>Address all correspondence to: <u>E. Joseph Gess, Esq.</u>  <u>BURNS, DOANE, SWECKER &amp; MATHIS, L.L.P.</u>  <u>P.O. Box 1404</u>  <u>Alexandria, Virginia 22313-1404</u></p>																																																																																	
<p>Address all telephone calls to: <u>E. Joseph Gess</u> at (703) 836-6620.</p>																																																																																	
<p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.</p>																																																																																	
FULL NAME OF SOLE OR FIRST INVENTOR		SIGNATURE	DATE																																																																														
Karl S. Beers			8/20/98																																																																														
RESIDENCE		CITIZENSHIP																																																																															
144 Westdale Road, Upper Darby, Pennsylvania 19082		U.S.A.																																																																															
POST OFFICE ADDRESS																																																																																	
144 Westdale Road, Upper Darby, Pennsylvania 19082																																																																																	
FULL NAME OF SECOND JOINT INVENTOR, IF ANY		SIGNATURE	DATE																																																																														
Charles L. Anderson			9/9/98																																																																														
RESIDENCE		CITIZENSHIP																																																																															
101 Maplewood Lane, Wilmington, Delaware 19810		U.S.A.																																																																															
POST OFFICE ADDRESS																																																																																	
101 Maplewood Lane, Wilmington, Delaware 19810																																																																																	

RECORDATION FORM COVER SHEET  
PATENTS ONLY

Attorney's Docket No. 016499-546

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Karl S. BEERS and Charles L. ANDERSON

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name

Other: \_\_\_\_\_

Execution Date: June 30, 1998

2. Name and address of receiving party(ies):

Name: L'AIR LIQUIDE, SOCIETE ANONYME  
POUR L'ETUDE ET, L'EXPLOITATION DES  
PROCEDES GEORGES CLAUDE

Address: 75 QUAI D'ORSAY

75321 PARIS CEDEX 07

FRANCE

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s)

09/107,141

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: E. Joseph Gess, Esq.

Address: BURNS, DOANE, SWECKER & MATHIS, L.L.P.

P.O. Box 1404

Alexandria, Virginia 22313-1404

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 40.00

☒ Enclosed

☒ Authorized to be charged to deposit account, if necessary

8. Deposit account number:

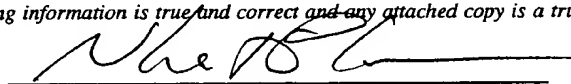
02-4800

DO NOT USE THIS SPACE

9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Nhat D. Phan  
Name of Person Signing

  
Signature

September 22, 1998  
Date

Total number of pages including cover sheet, attachments, and document: 2

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks  
Box Assignments  
Washington, D.C. 20231